REMARKS

Claims 1-16 are pending in the present application. Claims 1-16 were rejected in the Office action mailed April 28, 2003, which was made final. It is respectfully submitted that the Office action was prematurely made final, and it is requested that the finality of the Office action be withdrawn. As discussed in detail below, it is further submitted that all of the pending claims are allowable over the references of record.

I. Premature Finality of the Office Action

The Office action mailed April 28, 2003 was made final. It is submitted that the Office action was prematurely made final, and it is respectfully urged that the finality of the Office action be withdrawn.

Section 706.07(a) of the MPEP ("Final Rejection, When Proper on Second Action") states:

> Under present practice, second or any subsequent actions on the merits shall be final, *except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims* nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p).

(MPEP § 706.07(a)) (emphasis added).

It is respectfully submitted that the rejection in the Office action of April 28, 2003 was neither (1) necessitated by Applicants' amendment of the claims nor (2) based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c). Thus, it is urged that the finality of the Office action was premature and that the finality should be withdrawn.

As explained in Applicants' Amendment of March 5, 2003, independent claim 1 was merely amended to more clearly recite the claimed subject matter -- *i.e.*, by changing "advance" to "advanced" (line 10) and by clarifying that "valid control signal" should be "valid *communication* signal" (line 11). For example, claim 1, lines 5-7, recites "an advanced cruise control system connected with said electronic controller and producing *communication*

signals; wherein said electronic controller receives said *communication* signals . . . ." Thus, the amendment to claim 1 was made to more clearly state that "said electronic controller disengages said advanced cruise control mode in response to receiving no valid *communication* signal for greater than a first period of time."

Similarly independent claim 11 was merely amended by adding the language "one or more" (line 7) and by clarifying that "valid control signals" should be "valid *communication* signals" (line 7). For example, claim 11, line 4, states "receiving *communication* signals from said advanced cruise control system . . . ." Thus, the amendment to claim 11 was made to more clearly state "disengaging said advanced cruise control system as a function of not receiving one or more valid *communication* signals for a first time period."

The amendments to independent claims 1 and 11 merely provide clarification of the recited subject matter and do not significantly change the scope of the claims so as to necessitate a new ground of rejection. Thus, as stated in MPEP section 706.07 ("Final Rejection"): "Switching from . . . one set of references to another by the examiner in rejecting in successive actions *claims of substantially the same subject matter* . . . will . . . tend to defeat attaining the goal of reaching a clearly defined issue for an early termination, i.e., either an allowance of the application or a final rejection." (Emphasis added). Thus, Applicants respectfully urge that the finality of the Office action mailed April 28, 2003 was premature and that the finality should be withdrawn.

II. Obviousness Rejection of Claims 1-8, 11-13, and 15-16

Claims 1-8, 11-13, and 15-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,076,622 to Chakraborty *et al.* Applicants respectfully traverse the rejection of these claims.

Chakraborty discloses: "A method for implementing an intelligent cruise control using standard engine control modes[. The method] includes determining the distance and closing rate relative to a forward object or vehicle and using this information to implement a distance control mode and a speed control mode. The distance control mode maintains a selectable headway range relative to a forward object or vehicle [when a forward

object or vehicle is present] . . . . The speed control mode maintains a selectable cruising speed if no target vehicle is detected." (Chakraborty, Abstract, lines 1-11.)

Applicants respectfully submit that the invention recited by claims 1-8, 11-13, and 15-16 of the present application is neither anticipated nor rendered obvious by Chakraborty. Regarding independent claim 1, Chakraborty does not disclose, at least, "an electronic controller . . . ; an advanced cruise control system connected with said electronic controller and producing communication signals; . . . ***wherein said electronic controller disengages said advanced cruise control mode in response to receiving no valid communication signal for greater than a first period of time.***" Further, regarding independent claim 11, Chakraborty does not disclose, at least, "***disengaging [an] advanced cruise control system as a function of not receiving one or more valid communication signals for a first time period.***" Instead, the portions of Chakraborty relied upon in the Office action address how typical "distance and closing rate" signals are interpreted and managed by Chakraborty's device.

Regarding independent claims 1 and 11 of the present application, the Office action stated:

> "Chakraborty et al. teach that a forward vehicle may not be detected by a non-valid communication signal caused by electromagnetic interference or unanticipated scattering of the transmitted radar beam (Col. 10, lines 30-33). If a no-forward vehicle signal is sensed than a zero order hold is placed on the system variable for a first time period, causing the cruise control to be disengaged for brief interruptions in the signal. The signal is examined over a period of time, preferably of two seconds. If it is determined after the elapsed two seconds if there is a malfunction in the sensor than the intelligent cruise controller is disabled (Col. 10, lines 5-56)."

(Office action, page 3.) Thus, the Office action seems to imply that Chakraborty teaches examining a signal for longer than a period of time (*i.e.,* longer than two seconds), determining whether a malfunction exists based on this lengthy examination, and disabling the intelligent cruise controller *after the lengthy examination* if a malfunction is determined.

Applicants respectfully submit that the interpretation of Chakraborty stated in the Office action is not in accordance with the disclosure of Chakraborty and should be reconsidered.

In contrast to the interpretation of Chakraborty stated in the Office action, it is respectfully submitted that the cited portions of Chakraborty (*e.g.*, Column 10, lines 5-56) describe how the control logic of Chakraborty's device "analyzes . . . distance and closing rate information [received from a distance sensor] to determine whether a target vehicle is within range of [the distance] sensor" thus determining whether a target/forward vehicle actually IS or is NOT present. (Col. 10, lines 16-18.) Such a determination is significant to the Chakraborty device since the cruise control system of Chakraborty is programmed to maintain a selectable cruising speed (*i.e.*, **the controlled vehicle may accelerate**) if it is determined that a target vehicle is NOT present. (Abstract, lines 10-11, Col. 5, lines 16-18.)

Chakraborty teaches that its apparatus indicates that a target vehicle is NOT present when "the distance sensor . . . broadcasts a distance and closing rate of zero." (Col. 10, lines 29-33.) However, the distance sensor of Chakraborty may also broadcast a distance and closing rate of zero "if the host vehicle is traveling at the same speed as the target vehicle within the range of the distance sensor" (*i.e.*, when a target vehicle IS present). (Col. 10, lines 25-29.) Thus, when a distance and closing rate of zero is broadcast by the distance sensor, the Chakraborty device uses control logic to determine whether (1) a forward vehicle actually IS present (*i.e.*, when the host vehicle and a target vehicle are traveling at the same speed); or (2) a forward vehicle is NOT present. Chakraborty states that: "Block 160 . . . examines the [distance sensor's] signal over a predetermined period of time, preferably two . . . seconds, to determine whether the former condition [target vehicle IS present] or the latter condition [target vehicle is NOT present] actually exists. If the sensor broadcasts a distance of zero for more than the predetermined period of time . . ., then the system assumes no target vehicle is present [**so the controlled vehicle may accelerate**]. Otherwise, during brief interruptions in the signal [*i.e.*, interruptions less than two seconds], a zero order hold is applied to the system values, i.e., the system maintains its previous speed and engine retarder value [**so the controlled vehicle will NOT accelerate**]. . ." (Col. 10, lines 16-42; see also Col. 7, lines 13-32) (bracket text added for explanation).

Thus, the cited portions of Chakraborty describe how the Chakraborty device evaluates distance and closing rate signals received from a distance sensor to determine whether (1) a forward vehicle IS present (thus, the controlled vehicle may not accelerate); or (2) a forward vehicle is NOT present (thus, the controlled vehicle may accelerate). In stark contrast to the language recited in independent claim 1 of the present application, the cited portions of Chakraborty do not disclose an "electronic controller [that] disengages [an] advanced cruise control mode in response to receiving no valid communication signal for greater than a first period of time". Similarly, and in stark contrast to the language recited in independent claim 11 of the present application, the cited portions of Chakraborty do not disclose "disengaging [an] advanced cruise control system as a function of not receiving one or more valid communication signals for a first time period."

The Office action stated that Chakraborty discloses a method wherein "[i]f it is determined **after the elapsed two seconds** if there is a malfunction in the sensor than the intelligent cruise controller is disabled (Col. 10, lines 5-56)." (Office action, page 3) (emphasis added). It is believed that this statement in the Office action is meant to imply that Chakraborty uses the control logic sequences described above (in Col. 10, lines 33-42) to evaluate a signal for longer than a period of time (*i.e.,* two seconds) to determine whether a malfunction exists. However, it is respectfully submitted that the cited portions of Chakraborty do not support this implication. For example, Chakraborty plainly states that "the [distance] sensor . . . broadcasts a message via the CAN interface which includes [1] the distance and closing rate . . . and [2] *the status of the sensor unit. . . . If the sensor indicates . . . [a] malfunction, then the intelligent cruise control and preferably the traditional cruise control is* ***disabled.***" (Col. 10, lines 7-15) (emphasis added). Thus, Chakraborty indicates that the sensor itself broadcasts a signal that indicates the status of the sensor. If the sensor broadcasts a signal indicating a malfunction, both the intelligent cruise control and the traditional cruise control are **immediately disabled** (rather than evaluating a signal for longer than a predetermined period of time before disabling the intelligent cruise control system, as implied by the Office action). Moreover, the only language in the cited portions of Chakraborty (*e.g.,* Col. 10, lines 5-56) that discusses a predetermined period of time (Col. 10, lines 33-43) contradict the Office action's interpretation of Chakraborty. For example, Col.

10, lines 36-42, indicates that "[i]f the sensor broadcasts a distance of zero for **more** than the predetermined period of time **and a malfunction is not indicated**, then the system assumes no target vehicle is present. Otherwise, during **brief** interruptions in the signal [*i.e.*, interruptions **less** than the predetermined period of time], a zero order hold is applied to the system values, i.e., the system maintains its previous speed and engine retarder value . . . ." (Emphasis added.) Thus, the cited portions of Chakraborty do **not** discuss evaluating a signal for longer than a predetermined period of time to determine whether a malfunction exists, as suggested in the Office action.

In view of the foregoing remarks, it is submitted that Chakraborty does not teach "an electronic controller . . . ; an advanced cruise control system connected with said electronic controller and producing communication signals; . . . wherein said electronic controller disengages said advanced cruise control mode in response to receiving no valid communication signal for greater than a first period of time," as required by claim 1 of the present application. Similarly, it is submitted that Chakraborty does not disclose "disengaging [an] advanced cruise control system as a function of not receiving one or more valid communication signals for a first time period," as recited by independent claim 11 of the present application. In stark contrast, Chakraborty **relies** on receiving valid broadcast messages from a distance sensor in order to indicate a malfunction. Moreover, the Chakraborty device responds to such a broadcast by triggering an **immediate disabling** of the entire cruise control system in response to receiving the broadcast message.

Thus, the invention recited by independent claims 1 and 11 of the present application is neither anticipated nor rendered obvious by Chakraborty, taken singly or in combination with any of the art of record. As a result, the invention recited by the claims depending from claims 1 and 11 (*i.e.*, 2-10 and 12-16) are neither anticipated nor rendered obvious by Chakraborty.

III. Obviousness Rejection of Claims 9-10 and 14

Claims 9-10 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chakraborty in view of U.S. Patent No. 4,120,373 issued to Fleischer. Applicants respectfully submit, however, that the disclosure of Fleischer does not remedy the

deficiencies of Chakraborty, as explained in section II. above, to anticipate or render obvious any of claims 9-10 and 14. Regarding claims 9-10, as with Chakraborty, Fleischer fails to provide "an electronic controller . . . ; an advanced cruise control system connected with said electronic controller and producing communication signals; . . . wherein said electronic controller disengages said advanced cruise control mode in response to receiving no valid communication signal for greater than a first period of time." Similarly, regarding claim 14, and as with Chakraborty, Fleischer fails to disclose "disengaging [an] advanced cruise control system as a function of not receiving one or more valid communication signals for a first time period."

Thus, Fleischer, alone or in combination with Chakraborty or in combination with any of the art of record, does not anticipate or render obvious any of claims 9-10 and 14.

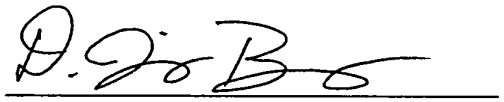
IV. Conclusion

Applicants respectfully submit that all of the stated grounds of rejection have been properly traversed. It is respectfully urged that the subject application is in condition for allowance, and allowance of the application at issue is respectfully requested. Should the Examiner believe that an interview would facilitate a clearer understanding of the pending claims or the remarks above, Applicants' undersigned attorney invites a telephone call at the below-listed number.

FEES

No fees are believed to be incurred by this response. Should any attached papers become lost or separated or should additional fees or petitions be deemed necessary for this submission, including petition and fee for extensions of time or additional claims, the Commissioner is requested to treat this as such petition, and is hereby authorized to charge any fees due to Caterpillar Inc.'s Deposit Account No. 03-1129.

Respectfully submitted,



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